Respirator Protection Program

Contact: Director of Risk Management, 541-956-7061

1. Rogue Community College is committed to the safety of all employees regarding the use of respirators in the workplace. Rogue Community College is also committed to complying with all applicable federal, state and local health and safety codes and regulations. To ensure that all affected employees are provided with the necessary information and training, the following Respiratory Protection Program has been established. All employees of Rogue Community College will participate and comply with all sections of the Respiratory Protection Program. The written Respiratory Protection Program will be reviewed, updated and maintained by the Rogue Community College Risk Management Department. A printed copy of the program is available at the Risk Management office and online at https://web.roguecc.edu/risk-management/campus-occupational-safety.

2. All contractors, vendors and or other third parties doing business with Rogue Community College at any facility owned or operated by Rogue Community College are required to meet or exceed the requirements of this Fall Protection Program and the requirements of Oregon OSHA.

3. Roles and Responsibilities

    a. Employer

        i. The Rogue Community College Respiratory Protection Program Administrator is the Director of Risk Management.
        ii. The Administrator's duties are to oversee the development of the Respiratory Protection Program and to ensure it is implemented in the workplace. The administrator will also evaluate the program regularly to make sure procedures are followed, respirator use is monitored and respirators continue to provide adequate protection when job conditions change.
        iii. Rogue Community College seeks employee involvement in every aspect of the Respiratory Protection Program including development, implementation and continued evaluation.
        iv. Rogue Community College ensures that the Respiratory Protection Program maintains compliance with Oregon Administrative Rules Chapter 437 and all standards as determined by NIOSH.

b. Employee

    i. Employees are encouraged to actively participate in every aspect of the Respiratory Protection Program including development, implementation and continued evaluation.

4. Training

    a. The Respiratory Protection Program Administrator will ensure all training has been completed before an employee is authorized to use a respirator for the first time and annually thereafter. All college employees who supervise a college employee that utilizes a respirator will also receive initial and annual training that is identical to that received by the employee actually utilizing the respirator. This ensures that the supervisor, who has daily oversight of the employees, is able to effectively implement and ensure compliance with the program.

    b. Training will cover the following topics:

        i. Why the respirator is necessary. Including information identifying respiratory hazards such as hazardous chemicals, the extent of the employee's exposure, and potential health effects and symptoms.
        ii. The respirator's capabilities and limitations. Including how the respirator provides protection and why air-purifying respirators cannot be used in oxygen deficient conditions.
        iii. How improper fit, use or maintenance can make the respirator ineffective.
        iv. How to properly inspect, put on, seal check, use, and remove the respirator.
        v. How to clean and store the respirator and have it serviced by an authorized individual. Rogue Community College employees are not authorized to service respirators. Service will be performed by the equipment manufacturer or a certified third party.
        vi. How to use a respirator in an emergency or when it fails.
        vii. Medical symptoms that may limit or prevent respirator use.
        viii. The college's obligations under Oregon Administrative Rule 437 Division 2 Subdivion I Personal Protective Equipment. Including developing a written administrative procedure, selecting appropriate respirators, and providing medical evaluations.

    c. Additional training will also be done when an employee uses a different type of respirator or workplace conditions affecting respiratory hazards or respirator use have changed. This also includes the introduction of new chemical hazards into the workplace.

5. Voluntary use of Respirators

    a. The Respiratory Protection Program at Rogue Community College is intended to protect employees against recognized health hazards through mandatory use. However, some employees may be irritated by the presence of non-hazardous air contaminants (such as pollen or dust). When use of a respirator will help alleviate irritation and when the respirator itself is judged to pose no additional risk to the wearer, Rogue Community College employees will be allowed to voluntarily use respirators for comfort reasons.

    b. Supervisor or Employee will complete a Voluntary Respirator Request Form and submit it to the Respiratory Protection Program Administrator for evaluation.

    c. If employee requests:

        i. Dust Mask or Filtering Facepiece including a N95
            A. The Respiratory Protection Program Administrator will determine if the respirator itself will not create a hazard or not.
            B. The Respiratory Protection Program Administrator will provide wearers with information contained in OSHA 1910.134 Appendix D.
            C. Medical Evaluation and Fit Test not required.
        ii. Tight Fitting Air Purifying Respirators
            A. Voluntary use of a respirator is defined as use for employee comfort purposes only. This means that no actual hazard exists that requires use of a respirator and the use of the respirator does not produce any additional hazard to the user. At Rogue Community College, the only acceptable respirator for voluntary use is the filtering facepiece respirator. Use of any other types of respirator, for example, a half-face or full-face respirator with cartridges, requires full compliance with the Colleges Respiratory Protection Program.

    d. Respiratory Protection Program Administrator:

        i. Ensure that use of respirators does not interfere with employee's ability to work safely.
        ii. Provide information contained in this procedure to all employees who voluntarily use respirators.
        iii. Determine if medical clearance is necessary for voluntary wearers based on the type of respirator selected.
        iv. Maintain records of all voluntary respirator use at Rogue Community College.
        v. Conduct periodic reviews on respirator storage, cleaning and use.

6. Required use of Respirators

    a. When the Rogue Community College Respiratory Protection Program Administrator determines that an employee is required to wear a respirator as part of their assigned job duties, the Respiratory Protection Program Administrator will select respirators based on the hazards to which workers are exposed and in accordance with Oregon OSHA requirements. The program administrator will conduct a hazard evaluation for each work process or area where airborne contaminants may be present during routine operations or emergencies. The evaluation will include the following:
        i. Identification and development of a list of hazardous substances used in the workplace by department or work process.
        ii. Review of work processes to determine where potential exposures to these hazardous substances may occur. This review will be conducted by surveying the workplace, reviewing process records, and talking to employees and supervisors.

    b. Supervisor Responsibilities

        i. Ensure that any activity performed by an employee or any chemical used by an employee that requires the use of a respirator is approved by the Respiratory Protection Program Administrator in advance.
        ii. Ensure that respirators are not used without the approval of the Respiratory Protection Program Administrator.
        iii. Report any problems to the Respiratory Protection Program Administrator.

    c. Employees Responsibilities

        i. Obtain permission from their department and the Respiratory Protection Program Administrator to use a respirator.
        ii. Read and understand the information contained in in this procedure.
        iii. Inspect their respirators before each use, store properly and clean (if applicable) after each use.
        iv. Report any problems to their supervisor.

7. Respirator Selection

    a. The type and brands of respirators vary widely ranging from simple dust masks to supplied air respirators.

    b. All respirators issued by and utilized at Rogue Community College will be certified by the National Institute for Occupational Safety and Health (NIOSH).

c. Additional considerations used in the selection of an appropriate respirator include work levels
    i. Examples of a light work effort are sitting while writing, typing, drafting, or performing light assembly work; or standing while operating a drill press (1-3 lbs.) or controlling machines.
    ii. Examples of moderate work effort are sitting while nailing or filing; driving a truck or bus in urban traffic; standing while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; walking on a level surface about 2 mph or down a 5-degree grade about 3 mph; or pushing a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.
    iii. Examples of heavy work effort are lifting a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; shoveling; standing; standing while bricklaying or chipping castings; walking up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lb.).

d. Following is a description of the types of respirators that are authorized for use at Rogue Community College.

    i. Dust Masks (filtering facepieces) - These simple, two-strap disposable dust masks are designed only for dusts. They are not as protective as other respirators, but do an adequate job in many cases, unless the dust is heavily toxic or copious. Do not confuse these <u>two</u>-strap masks with the less protective <u>one</u>-strap dust mask designed only for pollen or non-toxic dust. The two strap types of respirators have an Assigned Protection Factor of 10.

ii. Half-Face Air-Purifying Respirator - These respirators are sometimes called “half-face” or “half-mask” respirators since they cover just the nose and mouth. They have removable cartridges that filter out either dust, chemicals or both dependent of the cartridges used. Selecting the correct cartridges is essential since they are designed for particular types of chemicals or dust. These cartridges are typically removable and sometimes interchangeable. Cartridges are available for solvents, ammonia, chlorine, acids and other chemicals. The cartridges must be changed out or replaced periodically, especially for chemicals, since they can absorb only so much contaminant before breakthrough occurs. A few cartridges are equipped with end-of-service indicators that show when a cartridge should be replaced. Most cartridges do not have this indicator and Rogue Community College has developed a change-out schedule to prevent breakthrough. The change-out schedule is based on the chemical concentration, physical work effort, temperature and humidity. These types of respirators have an Assigned Protection Factor of 10.

iii. Full-Face Air-Purifying Respirator - In some situations, you may need or want to use full-face respirators. This type of respirator is used when the air contaminant irritates the eyes. They also provide somewhat higher protection to the lungs since they tend to fit tighter and are less prone to leaking. These respirators also have replaceable cartridges that must be changed on a regular basis as described in the cartridge change out schedule. These types of respirators have an Assigned Protection Factor of 50.

iv. Powered Air Purifying Respirator (PAPR) - Powered Air Purifying Respirators have a battery pack that draws air through replaceable cartridges and blows into a full-facepiece, helmet or hood. These respirators are often more comfortable in hot weather and some can provide more protection, depending on the type. The cartridges must be changed regularly as described in the cartridge change out schedule. These types of respirators have an Assigned Protection Factor of 25.

Airline Respirator

Tank-type respirator (SCBA)

v. Supplied Air Respirators and Self-Contained Breathing Apparatus (SCBA) - In a few situations, Rogue Community College may need to provide a supplied air respirator to employees. These situations include entering a confined space where there is lack of oxygen or high levels of air contaminants, or working around extremely toxic chemicals. They may also be necessary working during sandblasting or in some spray painting operations. "Supplied air," means that clean air is provided by means of an air hose from a compressor or a pressurized air tank. These types of respirators have an Assigned Protection Factor of 1,000 or 10,000.

A. Supplied air respirators are <u>required</u> when a respiratory hazard is considered "immediately dangerous to life or health" (also called "IDLH"). Respiratory hazards are classified as IDLH as follows:

a. There is a lack of oxygen (less than 19.5% oxygen)
b. There is too much oxygen (more than 23.5% - a fire hazard)
c. You know there are toxic chemicals in the air, but you don't know how much or what type.
d. The amount of chemical in the air is known or expected to be above the IDLH level for that chemical. See the NIOSH

Pocket Guide to Chemical Hazards for chemical IDLH levels.

e. Levels of chemicals above IDLH can occur in confined spaces, or enclosed spaces where there is little or no ventilation.

Note: Employees cannot enter IDLH atmospheres without prior approval form the Respiratory Protection Program Administrator.

vi. Emergency Escape Respirators - Emergency escape respirators, as the name implies, can only be used for one thing – to escape or exit from a room or building in an emergency, usually a large chemical release, leak or spill, or when a supplied air respirator fails or runs out of air. An escape respirator is typically a small bottle or tank of air connected to a facepiece that supplies 5-10 minutes of air. Some supplied air respirators will have an auxiliary bottle of air for escape that connects to the existing facepiece. These types of respirators have an Assigned Protection Factor of 10,000.

e. How do you decide which type of respirator to select? First, it must be the correct type for the air contaminant. Second, it must fit properly. Third, it must provide adequate protection for the amount of chemical in the air. The more toxic or more concentrated the chemical is in the air, the higher the level of protection the respirator must provide. The RCC Respiratory Protection Program Administrator will determine the correct type of respiratory to be used in all circumstances.

f. Different respirators provide different protection. Depending on the amount of chemical in the air, you may need to use a respirator that provides more protection. Respirators are rated by their "assigned protection factor" (APF) which is a number between 10 and 10,000. The higher the number, the greater the protection. A respirator with a protection factor of 10 will provide adequate protection to levels of the chemical in the air 10 times the safe limit of that chemical.

8. Respirator Use

    a. Employees will not be allowed to wear respirators with tight-fitting facepieces if they have facial hair (e.g., stubble, bangs) absence of normally worn dentures, facial deformities (e.g., scars, deep skin creases, prominent cheekbones), or other facial features that interfere with the facepiece seal or valve function. Jewelry or headgear that projects under the facepiece seal is also not allowed.

    b. The Respiratory Protection Program Administrator will monitor the work area in order to be aware of changing conditions where employees are using respirators.

    c. The Respiratory Protection Program Administrator will make sure that the NIOSH labels and color-coding on respirator filters and cartridges remain readable and intact during use.

    d. If corrective glasses or other personal protective equipment is worn, it will not interfere with the seal of the facepiece to the face.

    e. A seal check will be performed every time a tight-fitting respirator is put on.

    f. Where any area or confined space is designated as IDLH, employees of Rogue Community College are prohibited from entering without approval from the Respiratory Protection Program Administrator.

    g. Employees will leave the area where respirators are required for any of the following reasons:

        i. to replace filters or cartridges
        ii. when they smell or taste a chemical inside the respirator
        iii. when they notice a change in breathing resistance
        iv. to adjust their respirator
        v. to wash their faces or respirator
        vi. if they become ill
        vii. if they experience dizziness, nausea, weakness, breathing difficulty, coughing, sneezing vomiting, fever or chills.

9. Record Retention

    a. The following records will be kept by the Risk Management Department in accordance with ORS 437 Division 2.

        i. A copy of the current respirator program and all previous versions.
        ii. Each employees' latest annual fit-test results including:

A. Employees name.
B. Test date.
C. Type of fit-test performed and who it was performed by.
D. Description (type, manufacturer, model, style, and size) of the respirator tested.
E. Results of fit tests, for example, for quantitative fit tests include the overall fit factor AND a print out, or other recording of the test.

b. Employee training records.

c. Written recommendations from our medical provider. (Maintained by Human Resources.)

d. Employees and their representatives will have access to these records.

10. Medical Evaluations

a. Every employee of Rogue Community College who must wear a tight fitting respirator will be provided with a medical evaluation questionnaire before they are authorized to use a respirator. Employees are required to fill out the questionnaire in private and send or give them to Asante Occupation Health.

b. Using a respirator can create physical risks for an employee each time it is worn. The extent of these risks depends on these factors:

i. Type of respirator.
ii. Environmental conditions at the work area.
iii. Physical demands of the work.
iv. Use of the protective clothing.
v. Employee's health status.

c. Rogue Community College will ensure that the examination or questionnaire are administered at no cost to employees:

i. During the employee's normal working hours or
ii. At a time and place convenient to the employee.

d. Rogue Community College will maintain employee confidentiality during examination or questionnaire administration:

i. Rogue Community College will not view employee's answers on the questionnaire

ii. Rogue Community College will not act in a manner that may be considered a breach of confidentiality.

e. Rogue Community College will ensure employees understand the content of the questionnaire.

f. Completed questionnaires are confidential and will be sent directly to Asante Occupation Health without review by management.

g. Rogue Community College will ensure that Asante Occupation Health has the following information before the evaluation is completed:

   i. Information describing the respirators employees may use, including the weight and type.
   ii. How the respirators will be used, including:
      A. How often the respirator will be used, for example, daily, or once a month.
      B. The duration of respirator use, for example, a minimum of one hour, or up to 12 hours.
      C. The employee's expected physical work effort.
      D. Additional personal protective clothing and equipment to be worn.
      E. Temperature and humidity extremes expected during use.
   iii. A copy of the current written respiratory protection program and a copy of ORS 437 Division 2.

h. If the medical questionnaire indicates to Asante Occupation Health that a further medical exam is required, this will be provided at no cost to the employee by (Asante Occupation Health.). The Rogue Community College Respiratory Protection Program Administrator will get a recommendation from the medical provider on whether or not the employee is medically able to wear a respirator.

i. Additional medical evaluations will be done in the following situations:

   i. Our medical provider recommends it.
   ii. Our Respiratory Protection Program Administrator decides it is needed.
   iii. An employee shows signs of breathing difficulty.
   iv. Changes in work conditions that increase employee physical stress (such as high temperatures or greater physical exertion).

11. Fit Testing

a. All employees who wear tight-fitting respirators will be fit-tested before using their respirator or issued a new one.

b. Fit testing will be repeated annually and will be administered by the Respiratory Protection Program Administrator or designee.

c. Fit-testing will also be done when a different respirator facepiece is chosen, when there is a physical change in an employee's face that would affect fit, or when our employees or medical provider notify us that the fit is unacceptable. No beards are allowed on wearers of tight-fitting respirators. Respirators are chosen for fit-testing following procedures in the ORS 437 Division 2.

d. The following fit testing procedures will be utilized by Rogue Community College based on the individual being tested and their potential chemical exposure in the work place.

e. Rogue Community College will use quantitative fit-test methods when a negative pressure respirator will be used in concentrations requiring a protection factor greater than 10. This includes:

- **i.** Full-facepiece air-purifying respirators.
- **ii.** SCBAs operated in demand (negative pressure) mode.
- **iii.** Air-line respirators operated in demand mode.

f. Rogue Community College will make sure tight-fitting PAPRs, SCBAs, or airline respirators are fit tested in negative pressure mode. This must be done by either:

- **i.** Temporarily converting the respirator user's actual facepiece into a negative pressure respirator using the appropriate filters; or
- **ii.** Using an identical negative pressure air-purifying respirator facepiece as a surrogate for SCBA, airline or PAPR. The surrogate facepiece must have the same sealing surfaces as the SCBA, airline, or PAPR. Remove any modifications made to the respirator facepiece for fit testing and return the facepiece to the NIOSH approved configuration before the facepiece is used in the workplace.

g. Fit testing is not required for loose-fitting, positive pressure (supplied air helmet or hood style) respirators.

h. As part of the fit testing process, Rogue Community College will provide a variety of different respirators in various sizes for employees to utilize during the test.

i. Rogue Community College will utilize the following qualitative fit-testing protocol.

12. Irritant Smoke Protocol

a. Important: DO NOT USE A TEST ENCLOSURE OR HOOD FOR THIS FIT TEST! This is a qualitative fit-test (QLFT) procedure. During this test, an employee is exposed to irritating smoke containing hydrochloric acid produced by a stannic chloride ventilation smoke tube to detect leakage. The smoke will irritate eyes, lungs, and nasal passages. Employee sensitivity varies, and certain employees may respond more intensely than others exposed to irritant smoke. The Respiratory Protection Program Administrator will take precautions to minimize the employees' exposure to irritant smoke.

b. The Respiratory Protection Program Administrator will conduct fit testing in an area with adequate ventilation to prevent exposure of the employee conducting the fit test and build-up of irritant smoke in the ambient air.

c. Screening and Test Preparations. Important: Sensitivity screening is necessary to determine whether the employee can detect a weak concentration of irritant smoke AND whether any gross facepiece leakage is detected.

d. Obtain only stannic chloride (ventilation) smoke tubes, AND an aspirator squeeze bulb OR use a low-flow air pump set to deliver 200 milliliters of air flow per minute.

e. Equip the employee's chosen respirator with P100 series filters if a negative pressure air-purifying respirator will be tested. If a powered air purifying respirator (PAPR) will be tested, equip the respirator with high-efficiency particulate air (HEPA) filters.

f. Screening. Important: When performing sensitivity screening checks use only the MINIMUM amount of smoke necessary to elicit a response from the employee.

g. Advise the employee that the smoke can be irritating to eyes, lungs, and nasal passages AND instruct the employee to keep eyes closed while exposed.

h. Break both ends of the ventilation smoke tube AND fit a short piece of plastic tubing, for example, 2-to-6 inches of tygon tubing, over one end to prevent

exposure to the sharp end of the tube. Connect the other end to an aspirator bulb or a low-flow air pump set to deliver a flow of 200 ml per minute.

i. While the employee is NOT wearing a respirator, have the employee smell a weak concentration of irritant smoke to become familiar with its irritating properties. Carefully direct a small amount of irritant smoke toward the employee.

j. Have the employee attach respirator filters, put on, adjust, and seal check the respirator without assistance. The employee must be proficient at these tasks.

k. Remind the employee to keep eyes closed during testing.

l. Direct a stream of irritant smoke toward the respirator's face seal area as follows:

    i. Begin at least 12 inches from the facepiece AND move the smoke around the whole perimeter of the mask.
    ii. Gradually make 2 more passes around the perimeter of the facepiece; moving to within 6 inches of the respirator.
    iii. STOP at any time the employee detects smoke in the facepiece. If this occurs, a different respirator will need to be chosen and tested, beginning with sensitivity screening.

m. Have the employee perform appropriate fit test exercises listed in Section 12. If the employee has NOT had an involuntary response such as evidence of coughing, flinching, or other response, OR detected smoke in the facepiece. Continue to direct smoke from a distance of 6 inches around the facepiece perimeter.

    i. If smoke is detected at any time the test has FAILED. A different respirator must be chosen and tested, starting with sensitivity screening
    ii. If NO smoke is detected, proceed to Step n.

n. Have the employee remove the respirator AND perform another sensitivity screening check as follows:

    i. Continue to use the smoke tube used for fit testing.
    ii. Carefully direct a SMALL amount of irritant smoke toward the employee.
        A. The test has been PASSED IF the employee responds to the smoke.
        B. The fit test is VOIDED IF the employee does NOT respond to the smoke.

o. RCC reserves the right to utilize other OSHA and NIOSH approved fit testing procedures including the procedures listed below:

   i. Banana Oil (isogamy acetate) Protocol
   ii. Bitrex Protocol
   iii. Saccharin Protocol
   iv. Quantitative Fit Testing

13. Storage, Cleaning and Maintenance

a. Rogue Community College non-disposable respirators will be stored in an area determined by the Respirator Protection Program Manager and the department head for each area in which respirators are utilized at Rogue Community College. Changes to storage location can only be authorized by the Respiratory Protection Program Administrator at Rogue Community College.

b. Employees will store respirators to protect them from ALL of the following:

   i. Deformation of the facepiece or exhalation valve;
   ii. Sunlight or extreme temperatures or other conditions;
   iii. Contamination such as dust or damaging chemicals;
   iv. Excessive moisture.

c. Respirators will be cleaned and sanitized after every use or whenever they are visibly dirty. Under no circumstances will a respirator be shared between two or more employees without being disassembled and cleaned.

d. Respirators will be cleaned according to the manufacturer's instructions or the following Respirators Rule cleaning procedures. Respirators such as N95's are not designed to be clean between uses and maybe used for extended use by the same user but not reused.

   i. Remove filters, cartridges, canisters, speaking diaphragms, demand and pressure valve assemblies, hoses, or any components recommended by the manufacturer.
   ii. Discard or repair any defective parts. Wash components in warm (43°C (110°F) maximum) water with a mild detergent or with a cleaner recommended by the manufacturer.
   iii. A stiff bristle (not wire) brush may be used to help remove the dirt.

iv. If the detergent or cleaner does not contain a disinfecting agent, respirator components should be immersed for 2 minutes in one of the following:
    A. A bleach solution (concentration of 50 parts per million of chlorine). Make this by adding approximately one milliliter of laundry bleach to one liter of water at 43°C (110°F)
    B. A solution of iodine (50 parts per million iodine). Make this in 2 steps:
        a. First, make a tincture of iodine by adding 6-8 grams of solid ammonium iodide and/or potassium iodide to 100 cc of 45% alcohol, approximately.
        b. Second, add 0.8 milliliters of the tincture to one liter of water at 43°C (110°F) to get the final solution.
        c. Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.
v. Rinse components thoroughly in clean, warm (43°C (110°F) maximum), preferably, running water.
vi. Note: The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on facepieces could cause dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts, if not completely removed. Drain components. Air-dry components or hand dry components with a clean, lint-free cloth. Reassemble the facepiece components. Replace filters, cartridges, and canisters, if necessary (for testing). Test the respirator to make sure all components work properly.

e. All respirators will be inspected before and after every use and during cleaning. In addition, emergency respirators and self-contained tank-type supplied air respirators in storage will be inspected monthly.

f. Respirators will be inspected for damage, deterioration or improper functioning and repaired or replaced as needed. Repairs and adjustments are done only by the manufacturer.

g. Supplied air respirators will be checked for proper functioning of regulator and warning devices and amount of air in tanks where used.

h. When supplied air respirators are used, any needed repairs or adjustments will be done by the manufacturer or technician trained by the manufacturer.

i. When using respirators with vapor or gas cartridges, the cartridges will be regularly replaced on a schedule determined by the program director and the

department head based on respirator use, exposure levels and specific chemicals that the respirator is exposed to.

14. Workplace Evaluation for Respirator Use

a. Rogue Community College will utilize a hierarchy of controls to reduce the need for respirators in the workplace by first using engineering controls to eliminate the hazard and eliminate the employee's exposure if possible.

b. If engineering controls do not eliminate the hazard, Rogue Community College will utilize administrative controls. Only if engineering and administrative controls do not eliminate the hazard or are considered impractical, will Rogue Community College authorize an employee to use a respirator in the work place.

c. Respirators are required when employees are exposed (can inhale) chemicals or dust in the air that are at or above Permissible Exposure Levels for that specific chemical or group of chemicals. These can include vapors from handling solvents, spray-painting, dust from grinding or sanding, or welding fumes.

d. Air quality testing that is completed as part of the determination for respirator use will be done without regard for the use of personal protective equipment.

e. Rogue Community College has evaluated our use of chemicals at the college and found respirators must be used by employees in the following locations or doing the following duties, tasks or activities:

i. Facilities

f. The list above is a minimum. Additional areas or duties may be added at the discretion of the Respirator Protection program manager based on a hazard analysis and exposure assessment.

15. Definitions

a. Air-line respirator - An atmosphere-supplying respirator for which breathing air is drawn from a source separate from and not worn by the user, such as: (a) A cylinder or a tank; (b) A compressor; (c) An uncontaminated environment.

b. Air-purifying respirator (APR) - A respirator equipped with an air-purifying element such as a filter, cartridge, or canister, or having a filtering facepiece, for example, a dust mask. The element or filtering facepiece is designed to remove

specific contaminants, such as particles, vapors, or gases, from air that passes through it.

c. **Air supplied respirator** (see airline respirator).

d. **Assigned protection factor (APF).** The workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when you implement a continuing, effective respiratory protection program as specified by this chapter. For example, an effective program makes sure the respirator is: (a) Functioning properly; (b) Fitted to the user; (c) Worn by trained individuals; and (d) Used with the limitations specified on the NIOSH-approval label.

e. **Atmosphere-supplying respirator.** A respirator that supplies the user with breathing air from sources, such as: (a) A cylinder or a tank; (b) A compressor; (c) An uncontaminated environment. Breathing air. Air supplied to an atmosphere-supplying respirator. This air meets the specifications found in WAC 296-842-20005.

f. **Canister or cartridge** (air purifying). Part of an air-purifying respirator that consists of a container holding materials such as fiber, treated charcoal, or a combination of the two, that removes contaminants from the air passing through the cartridge or canister.

g. **Cartridge respirator** (see also air-purifying respirator). An air-purifying respirator equipped with one or more cartridges. These respirators have a facepiece made from silicone, rubber OR other plastic-like materials.

h. **Demand respirator.** An atmosphere-supplying respirator that sends breathing air to the facepiece only when suction (negative pressure) is created inside the facepiece by inhalation.

i. **Demand respirators** are “negative pressure” respirators.

j. **Dust mask.** A name used to refer to filtering-facepiece respirators. Dust masks may or may not be NIOSH certified. See filtering facepiece.

k. **Emergency respirator.** A respirator suitable for rescue, escape, or other activities during emergencies.

l. **Emergency.** Any occurrence that could or does result in a significant uncontrolled release of an airborne contaminant. Causes of emergencies include, but are not limited to, equipment failure, rupture of containers, or failure of control equipment.

m. **End-of-service-life indicator (ESLI).** A system that warns the air-purifying respirator user that cartridges or canisters must be changed. An example of an ESLI is a dot on the respirator cartridge that changes color.

n. **Escape-only respirator**. A respirator that can only be used to exit during emergencies. Look for this use limitation on the respirator's NIOSH approval label.

o. **Exposed, or exposure.** The contact an employee has with a toxic substance, harmful physical agent, or oxygen deficient condition. Exposure can occur through various routes of entry, such as inhalation, ingestion, skin contact, or skin absorption.

p. **Filter.** Fibrous material that removes dust, spray, mist, fume, fog, smoke particles, OR other aerosols from the air.

q. **Filtering-facepiece respirator.** A tight-fitting, half-facepiece, negative-pressure, particulate air purifying respirator with the facepiece mainly composed of filter material. These respirators do not use cartridges or canisters and may have sealing surfaces composed of rubber, silicone or other plastic-like materials. They are sometimes referred to as “dust masks.”

r. **Fit factor.** A number providing an estimate of fit for a particular respiratory inlet covering to a specific individual during quantitative fit testing.

s. **Fit test** (see also qualitative fit test and quantitative fit test). An activity where the facepiece seal of a respirator is challenged, using an Oregon OSHA accepted procedure, to determine if the respirator provides an adequate seal.

t. **Full-facepiece respirator.** A tight-fitting respirator that covers the wearer's nose, mouth, and eyes. Gas mask. An air-purifying respirator equipped with one or more canisters. These respirators have a facepiece made from silicone, rubber or other plastic-like materials.

u. **Half-facepiece respirator**. A tight-fitting respirator that only covers the wearer's nose and mouth. Helmet. The rigid part of a respirator that covers the wearer's head AND also provides head protection against impact or penetration.

v. **High-efficiency particulate air filter (HEPA).** A powered air-purifying respirator (PAPR) filter that removes at least 99.97% of monodisperse dioctyl phthalate (DOP) particles with a mean particle diameter of 0.3 micrometer from contaminated air.

w. **Hood**. The part of a respirator that completely covers the wearer's head and neck AND may cover some or all of the shoulders and torso.

x. **Immediately dangerous to life or health (IDLH).** An atmospheric condition that would: (a) Cause an immediate threat to life; or (b) Cause permanent or delayed adverse health effects; or (c) Interfere with an employee's ability to escape.

y. **Licensed health care professional (LHCP).** An individual whose legally permitted scope of medical practice allows him or her to provide some or all of the health care services required for respirator users' medical evaluations.

z. **Loose-fitting facepiece**. A respiratory inlet covering that is designed to form a partial seal with the face.

aa. **Negative-pressure respirator.** Any tight-fitting respirator in which the air pressure inside the facepiece is less than the air pressure outside the respirator during inhalation.

bb. **NIOSH.** The National Institute for Occupational Safety and Health. NIOSH is the federal agency that certifies respirators for occupational use.

cc. **Oregon OSHA.** The division of the Oregon Department of Consumer and Business Services that regulates workplace safety in Oregon.

dd. **Oxygen deficient.** An atmosphere with an oxygen content below 19.5% by volume.

ee. **Permissible exposure limits (PELs).** Employee exposures to toxic substances or harmful agents that must not be exceeded. PELs are specified in applicable Oregon OSHA chapters.

ff. Positive-pressure respirator. A respirator in which the air pressure inside the respiratory inlet covering is greater than the air pressure outside the respirator.

gg. Powered air-purifying respirator (PAPR). An air-purifying respirator equipped with a blower that draws ambient air through cartridges or canisters. These respirators, as a group, are not classified as positive pressure respirators and must not be used as such.

hh. Pressure-demand respirator. A positive-pressure atmosphere-supplying respirator that sends breathing air to the respiratory inlet covering when the positive pressure is reduced inside the facepiece by inhalation or leakage.

ii. Qualitative fit test (QLFT). A test that determines the adequacy of respirator fit for an individual. The test relies on the employee's ability to detect a test substance. Test results are either “pass” or “fail.”

jj. Quantitative fit test (QNFT). A test that determines the adequacy of respirator fit for an individual. The test relies on specialized equipment that performs numeric measurements of leakage into the respiratory inlet covering. Test results are used to calculate a “fit factor.”

kk. Required use. Respirator use that: (a) is necessary to protect employees from respiratory hazards; or (b) The employer decides to require for his or her own reasons. For example, the employer decides to follow more rigorous exposure limits.

ll. Respirator. A type of personal protective equipment designed to protect the wearer from airborne contaminants, oxygen deficiency, or both.

mm. Respiratory hazard - Airborne hazards and oxygen deficiency that are addressed in chapter 296-841 WAC, Airborne contaminants.

nn. Respiratory inlet covering - Part of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source or both. The respiratory inlet covering may be a facepiece, helmet, hood, suit, or mouthpiece respirator with nose clamp.

oo. Seal check - Actions conducted by the respirator user each time the respirator is put on, to determine if the respirator is properly seated on the face.

pp. Self-contained breathing apparatus (SCBA) - An atmosphere-supplying respirator designed for the breathing air source, to be carried by the user.

qq. Service-life - The period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer. For example, the period of time that sorbent cartridge is effective for removing a harmful substance from the air.

rr. Sorbent - Rigid, porous material, such as charcoal, used to remove vapor or gas from the air.

ss. Supplied-air respirator (see airline respirator).

tt. Tight-fitting facepiece - A respiratory inlet covering forming a complete seal with the face OR neck. Mouthpiece respirators are not tight-fitting facepieces.

uu. Voluntary use - Respirator use that is requested by the employee and permitted by the employer when no respiratory hazard exists.